UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,561	03/15/2004	Shoichi Awai	7217/71978	9794

530 7590 04/15/2008

LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
600 SOUTH AVENUE WEST
WESTFIELD, NJ 07090

EXAMINER	
SANDERS, AARON J	
ART UNIT	PAPER NUMBER
2168	

MAIL DATE	DELIVERY MODE
04/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/800,561	AWAI, SHOICHI	
	Examiner	Art Unit	
	AARON SANDERS	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/29/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's response filed 22 January 2008 has been entered. Claims 1 and 3-7 are pending. Claims 1 and 5 are currently amended. Claim 2 is cancelled. Claim 7 is new. This action is FINAL, as necessitated by amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yano et al., U.S. 6,711,594 (Yano), in view of Satoh et al., U.S. 2004/0172538 (Satoh).

1. Yano teaches "*A data service apparatus comprising*," see Fig. 1 and col. 3, line 59 – col. 4, line 23, "FIG. 1 is a schematic general drawing of a distributed data archive system."

Yano teaches "*storage means for storing digital data*," see col. 2, lines 4-45, "a reading/writing means for reading/writing digital data from/onto a portable recording medium."

Yano teaches "*an encryption circuit for encrypting digital data into encrypted data*," see col. 2, lines 46-64, "a means for encrypting data."

Yano teaches "*a decryption circuit for decrypting encrypted data into its initial digital data*," see col. 2, lines 46-64, "individual divided data are decrypted or, alternatively, to perform the decryption after the divided data are integrated."

Yano teaches "*an identification code generation circuit for generating an identification code unique to the data service apparatus*," see col. 1, line 45 to col. 2, line 3, "a data management means for recording… data-saving procedure information that indicates a dividing method of the data to be saved and the like" which includes, see col. 6, lines 14-41, "A unique file name is designed to be given to each of the divided files formed on the basis of the to-be-saved data file in accordance with a predetermined rule."

Yano teaches "*and a division circuit for dividing a file into a plurality of files each having the file size obtained by the circuit for obtaining*," see col. 1, line 45 to col. 2, line 3, "a division means for dividing data to be saved into a plurality of parts" and col. 4, line 53 – col. 5, line 3, "Herein, the item 'division method' is further classified into the detailed items of 'file division algorithm', 'divided file size', and 'number of divided files.'"

Yano teaches "*wherein digital data, to be backed up, stored in the storage means is extracted, divided into the plurality of files each having the file size* (col. 4, line 53 – col. 5, line 3, "Herein, the item 'division method' is further classified into the detailed items of 'file division algorithm', 'divided file size', and 'number of divided files'"), *encrypted by the encryption circuit into encrypted data and stored in the external storage unit* (see Fig. 3, S1 "medium reading and authentication", S23 "division/encryption", and S31 "divided file writing" where, see col. 2, lines 4-45, "the divided parts are each transferred to the plurality of servers on the network and are distributed/saved therein"); *encrypted data, to be decrypted, stored in the external storage unit is extracted, decrypted by the decryption circuit into the initial digital data and written back to the storage means* (see Fig. 3, S43 "reading of divided files that constitute the to-be-extracted file", S47 "decryption/integration of divided files", and S51 "saving of the to-

be-extracted file" where, see col. 2, lines 4-45, "it becomes possible to access the saved data from an arbitrary distributed data archive device connected to the network as long as the portable recording medium is carried with the user"); *the encryption circuit is operable to perform encryption by utilizing the identification code generated by the identification code generation circuit* (see col. 2, lines 46-64, "cryptographic key information and the like that are needed for encryption/decryption are recorded as the data-saving procedure information by the data management means" where, see col. 5, line 58 to col. 6, line 13, "For example, if the data file F1 is divided into four divided files F11 to F14, these files F11 to F14 are distributed and saved onto any one of the three data servers 2a to 2c of FIG. 1. In this case, information about how the original data file F1 has been divided, about what bytes the size of each divided file is, and about how many divided files have been formed in total is stored onto the management folder of FIG. 2 as management data (data-saving procedure information) of the file F1. If the encryption method, the redundancy storage method, the dummy data addition method, etc., are employed at this time, information about these methods is also stored as management data"); *and the decryption circuit is operable to perform decryption by utilizing the identification code generated by the identification code generation circuit* (see col. 2, lines 46-64, "cryptographic key information and the like that are needed for encryption/decryption are recorded as the data-saving procedure information by the data management means" where, see col. 6, lines 42-61, "Moreover, reference to data-saving procedure information in the management data of the file F1 makes it possible to recognize a reconstituting procedure about how the divided files that have been read should be decrypted")."

Yano teaches "*a circuit for obtaining a file size of digital data for storage as a file into an external storage unit*," see col. 10, lines 1-21, "Thereafter, the 'file division method' is determined at step S13. In more detail, conditions are established about how the to-be-saved file F1 is divided (i.e., algorithm), about how much file length the to-be-saved file F1 is divided to have (i.e., file size), and how many files the to-be-saved file F1 is divided into (i.e., number of files)." Yano does not teach "*in which the file size is obtainable based on data indicative of write or read characteristics of the external storage unit.*" Satoh does, however, see [0123], "The processing unit in a common key encryption method which is widely used for data encryption is normally either a 64-bit or 128-bit basis. In this case, a disk sector in the size of 512 bytes (4096 bits) will be divided into 64 or 32 blocks for the encryption processing." Thus, it would have been obvious to one of ordinary skill in the database art at the time of the invention to combine the teachings of the cited references because Satoh's teachings would have allowed Yano's apparatus to gain a means of controlling the encryption for each read/write block of data based on sector size of the storage unit, see [0122].

3. Yano teaches "*The data service apparatus according to claim 1, further comprising a falsification detection circuit for checking, when decrypting the digital data from the encrypted data, the digital data according to the identification code generated by the identification code generation circuit, and for inhibiting the initial digital data from being written back to the storage means when it is found that the digital data has been falsified*," see col. 13, lines 8-31, "Since an IC card with very great security against illegal data falsification can be used as the archive card 10 needed when data is saved and when the data is extracted, there is no fear that saved data will be stolen", col. 8, line 57 to col. 9, line 10, "The authenticity of the distributed

data archive device 1… is checked on the side of the archive card 10 while the authenticity of the archive card 10 is being checked by the verification means 12", and Fig. 3, S1 "medium reading and authentication" where, if the data is falsified, it is not read.

4. Yano teaches "*The data service apparatus according to any one of claims 1and 3, further comprising a comparison circuit for making a comparison in attribute data between the digital data in the storage means and the digital data stored in the external storage unit*," see col. 5, line 58 to col. 6, line 13, "Information (i.e., URL list of the data servers) that shows the data server on which each of the four divided files F11 to F14 is saved is stored onto the management folder of FIG. 2 as management data (data depository information) of the file F1" where an attribute of the data is the server's URL.

Yano teaches "*wherein digital data, which has been updated after being previously backed up in the external storage unit and which is stored in the storage means, is stored into the external storage unit depending upon a comparison result from the comparison circuit*," see col. 4, lines 24-52, "the data depository information is constructed by a list of addresses (i.e., Uniform Resource Locator, which is hereinafter referred to as URL) of a plurality of data servers that are depository destinations" where, see col. 13, lines 8-31, the data can be updated because "It is possible to very conveniently access the saved data from an arbitrary distributed data archive device connected to the network if the archive card 10 is carried."

5. Yano teaches "*The data service apparatus according to claim 4, further comprising: an aggregation circuit for aggregating a plurality of files into one file*," see col. 1, line 45 to col. 2, line 3, "an integration/reconstitution means for reconstituting divided/saved data into an original single data file."

Yano teaches "*a synthesis circuit for combining the divided files together into one file*," see col. 1, line 45 to col. 2, line 3, "an integration/reconstitution means for reconstituting divided/saved data into an original single data file."

Yano teaches "*and a separation circuit for separating one file formed from a plurality files into the plurality of files*," see col. 1, line 45 to col. 2, line 3, "a division means for dividing data to be saved into a plurality of parts."

Yano teaches "*wherein for backup of the digital data: digital data read by the aggregation circuit from the storage means are aggregated into one file*," see col. 2, lines 4-45, "when the data to be saved is extracted, the data to be saved that has been distributed into the plurality of servers on the network and has been saved therein is extracted."

Yano teaches "*the file as a result of the aggregation is divided by the division circuit according to the file size*," see col. 8, lines 19-32, "one divided file is constructed with data in which one byte is taken at every third byte if three divided files are formed."

Yano teaches "*and the file as a result of the division being stored into the external storage unit*," see col. 2, lines 4-45, "a network communication means for transferring the data files divided by a communication protocol determined among data servers keeping the data to be saved."

Yano teaches "*and wherein for decryption of the digital data: the encrypted data stored in the external storage unit are decrypted and combined by the synthesis circuit into an initial one file*," see col. 2, lines 46-64, "the integration/reconstitution means reconstitutes the divided data into the original data in such a way as to perform the integration after the saved individual divided data are decrypted."

Yano teaches "*and the file as a result of the synthetic combination is separated by the separation circuit into the plurality of initial digital data and written back to the storage means*," see Fig. 3, S51 "saving of the to-be-extracted file" where the file is saved to the card, Fig. 1 where there can be more than one "to-be-saved data file", and therefore after the files have been individually recombined from the data servers they are still separate from each other on the card and therefore a "plurality of initial digital data and written back to the storage means."

7. Satoh teaches "*The apparatus according to claim 1, wherein the data indicative of write or read characteristics of the external storage unit includes data indicative of a cluster size and a track size*," see [0123], "The processing unit in a common key encryption method which is widely used for data encryption is normally either a 64-bit or 128-bit basis. In this case, a disk sector in the size of 512 bytes (4096 bits) will be divided into 64 or 32 blocks for the encryption processing."

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yano et al., U.S. 6,711,594 (Yano), in view of Satoh et al., U.S. 2004/0172538 (Satoh), and further in view of Murty et al., U.S. 2003/0084290 (Murty).

6. Yano and Satoh do not teach "*The apparatus according to claim 5, further comprising a communications circuit for performing information communications with an external certificate server, wherein restoration of the digital data to be decrypted is done only when the communications circuit has received a permission of restoration from the external certificate circuit.*" Murty does, however, see [0029], "To obtain the symmetric storage key, the HSED 22 must authenticate itself with the security appliance 20. This authentication may be achieved in any one of a number of different ways, but preferably involves the HSED 22 sending a certificate

signing request to the security appliance 20" where, see [0028], "the HSED 22 intercepts the incoming data and decrypts (using the symmetric storage key 26) what is read from the drive before delivering this information to the host server 12a." Thus, it would have been obvious to one of ordinary skill in the database art to combine the teachings of the cited references because Murty's teachings would have allowed Yano and Satoh's apparatus to use a certificate server for authentication so as to gain "an improved post-side encryption module for encrypting data for storage on a storage area network, and for decrypting encrypted data received from the storage area network", see Murty [0009], because "a security system for storage area networks that provides certificate-based authentication, persistent encryption of data (during movement and storage) and transparent operation (across all hardware and software components found on the storage area network) is desirable", see Murty [0008].

Response to Arguments

As per Applicant's argument that Yano does not teach "*in which the file size is obtainable based on data indicative of write or read characteristics of the external storage unit*," the Examiner agrees. Satoh does, however, see [0123], "The processing unit in a common key encryption method which is widely used for data encryption is normally either a 64-bit or 128-bit basis. In this case, a disk sector in the size of 512 bytes (4096 bits) will be divided into 64 or 32 blocks for the encryption processing." Thus, it would have been obvious to one of ordinary skill in the database art at the time of the invention to combine the teachings of the cited references because Satoh's teachings would have allowed Yano's apparatus to gain a means of controlling

the encryption for each read/write block of data based on sector size of the storage unit, see [0122].

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Aaron J. Sanders whose telephone number is 571-270-1016. The Examiner can normally be reached on M-F 9:00a-5:00p.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Vo Tim can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tim T. Vo/
Supervisory Patent Examiner, Art Unit 2168

/Aaron Sanders/
Examiner, Art Unit 2168
24 March 2008

/S. P./
Primary Examiner, Art Unit 2164